



5:31 AM

015

Accept



Setup Start



Stop



Tube STD w/ Training Wearplates, LH

Date: 9/30/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 10/11/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 10-10-01

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

IIN-D350-636

H

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-015 CHG 001

NIA/ see wr63.48

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 62437

Friday, October 01, 2010 10:26:31 AM

Page 2

Item ID: D350-636-015

Accept

Setup Start

Revision ID:

Stop

Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 10/11/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

110



Skidtubes

Skidtubes

Skidtubes

Memo

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside  
AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500",  
deburr.

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade  
fitting

5- Drill fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill  
Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail B.  
\*\*\*SECOND SIDE\*\*\*

8- Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting  
location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up  
holes for ground handling and detail C to 0.500" (8 holes per side)

9- Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to  
0.297".

10- Open up holes of Detail A to 0.297" (total of 2 holes per side)

8- Drill Heat Fwd wearplate hole using DT9678  
location off of 66.54 hole.

N/A

total of 1 hole per side

10-10-12

10-10-12

10-10-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 62437

Friday, October 01, 2010 10:26:31 AM



Item ID: D350-636-015

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 10/11/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left  
from bending as per QSI 004  
A/R Aluminum Rod batch: ☐ *MIL5778* *8/10/10/03*

12-Grind welds flush as per Dwg D2750

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

*S 10/1/04*

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

*S 10/1/04*

*(X)*

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date &amp; initial all entries

# Work Order ID 62437

Friday, October 01, 2010 10:26:31 AM



Page 7

Item ID: D350-636-015

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 10/11/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

=> Ml 10/11/12 1 0

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 9:00  
OVEN TEMPERATURE: 320°  
FINISH TIME: 9:30

1 BL 10-11-12

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

=> Ml 11/01/05

1 0

205  
Hand Finish  
11.01.05

Wing Dalk per day B# 10/01/06 1 0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Work Order ID 62437

Friday, October 01, 2010 10:26:31 AM



Page 8

Item ID: D350-636-015

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 10/11/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo 1- Install inserts as per Dwg D2750 4168	0.00				1	0		
230	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo 1- Inspect for Foreign Objects 2- Spray inside of tube with "LPS-3" batch: N/14 3- Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 4168 SIKA FLEX 241 BATCH: 11/15/14 EXP DATE: 11/01 4- assemble o'ring to plug as per dwg D3492 and apply o'ring lube A/R 55-o'ring lube batch: M114189 5- Coat all exposed fasteners with "LPS Procyon" batch: M114596	0.00				21	0		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval, Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 62437**

Friday, October 01, 2010 10:26:31 AM

Page 9

Item ID: D350-636-015

Accept

Setup Start

Revision ID:

Stop

Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010 Start Qty: 1.00

Required Date: 10/11/2010 Req'd Qty: 1.00

Cust Item ID:




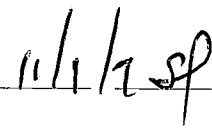


Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							
250  Packaging Packaging	Pick Kit  Memo	0.00 0.00							
260  QC Quality Control	QC4- 100% Inspect kits for completeness  Memo *****ensure antiseize is on AN8C21A bolts*****	0.00 0.00							

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 62437

Friday, October 01, 2010 10:26:31 AM



Page 10

Item ID: D350-636-015

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 10/11/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

270

0.00



Packaging

Packaging

Memo

0.00

Identify and pack for shipping as per PPPD350-636-015

Location: 72

PPP rev: \_\_\_\_\_

PM 63148

*[Handwritten signature]*

280

0.00



QC

QC21- Final Inspection - Work Order Release

Memo

0.00

Quality Control

*[Handwritten mark]*

*[Handwritten signature]*

*[Handwritten date: 11-01-07]*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			







**NOTE:** Date & initial all entries

Friday, October 01, 2010 10:26:35 AM

[illegible]**Required Date:** 10/11/2010

**Required Qty: 1.00**

**Comments:** IPP rev:A 10.09.28 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C34A 		Purchased	No			230	Each	20.0000	1	1			
BOLT										<del>11/10/05</del>			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST353				20					
				<del>115767</del>				20					
AN3C36A 		Purchased	No			230	Each	77.0000	4	4			
BOLT										<del>11/01/05</del>			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST353				77		M116239	2		
				101261				4					
				109771				18		M116522	2		
				115358				15					
				115518				40					
AN3C37A 		Purchased	No			230	Each	63.0000	1	1			
BOLT										<del>11/10/05</del>			
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST354				63		M115908	1		
				111775				1					
				114761				12					
				114801				50					

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval, Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 2

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C42A

Purchased No

230

Each

107.0000

1

1



BOLT

Location

Loc Qty

Loc Code

ST354

107

106169

7

106176

100

D3490-1

Manufactured No

230

Each

41.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

41

59424

3

61217

38

D3490-3

Manufactured No

230

Each

2.0000

4

4



Cross Bolt Spacer

Location

Loc Qty

Loc Code

LG

2

60294

1

61218

1

D3873-1

Manufactured No

230

Each

119.0000

7

7



Bushing

Location

Loc Qty

Loc Code

ST092

40

62197

40

ST093

79

57615

79

1363314

X7

10/10/10  
MID1176 11/1/10

4 BE 10/11/08

262451 4 BE 10/11/08

10/10/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 3

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

D4154-041	Manufactured	No	230	Each	0.0000	1	1	
Wearplate Assembly								x1 M 11/6/10
D4170-1	Manufactured	No	230	Each	0.0000	4	4	
Bushing								B 62669 x4 BE 10/1/08
D4171-1	Manufactured	No	230	Each	0.0000	1	1	
Bushing								x1 M 11/6/10
MS21043-3	Purchased	No	230	Each	2,599.000	5	5	
Nut								M 11/6/10

## Location

## Loc Qty

## Loc Code

FG	76	
103691	76	
ST301	2523	
111383	46	
112314	2477	

NAS1149C0363R	Purchased	No	230	Each	5,838.000	9	9	
Washer								x5

## Location

## Loc Qty

## Loc Code

ST297	5838	
113524	188	
113644	150	
113889	500	
114742	5000	

Friday, October 01, 2010 10:26:35 AM

Shop Packet Print

Page 3

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 4

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased No

230

Each

380.0000

4



WASHER

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

340

111819

94

113362

246

AN960JD816

Purchased No

250

Each

127.0000

2



1/2" washer, Alum

Location

Loc Qty

Loc Code

ST348

127

106043

127

D2744

Manufactured No

110

Each

14.0000

1



Cap

Location

Loc Qty

Loc Code

LG

14

59198

14

D2600-3-BENT

Manufactured No

110

Each

8.0000

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

8

59410

1

61634

7

Friday, October 01, 2010 10:26:35 AM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 5

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

D2743

Manufactured No

160

Each

230.0000

8

8



Crossbolt Spacer

## Location

## Loc Qty

## Loc Code

LG

230

50281

10

57953

2

59111

111

61844

107

BB 10/11/08

D2739

Manufactured No

160

Each

2.0000

1

1



350 I Beam

## Location

## Loc Qty

## Loc Code

LG

2

62688

2

61998

160

Each

2.0000

4

4

D3490-3

Manufactured No



Cross Bolt Spacer

A me 10-01-07

## Location

## Loc Qty

## Loc Code

LG

2

60294

1

61218

1

160

Each

41.0000

4

4

D3490-1

Manufactured No



Cross Bolt Spacer

A me 11-01-07

## Location

## Loc Qty

## Loc Code

LG

41

59424

3

61217

38

7

7

Friday, October 01, 2010 10:26:35 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 6

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

Purchased

No

230

Each

4,956.000

4

4



Insert



HL 11/01/05

Location

Loc Qty

Loc Code

PK011

4956

110768

4956

X4

D3492-041

Manufactured

No

230

Each

33.0000

8

8



Plug Assembly



HL 11/01/05

Location

Loc Qty

Loc Code

FP013

33

B63994

V8

59114

1

61311

32

AN8C35A

Purchased

No

230

Each

32.0000

1

1



BOLT



HL 10/01/05

Location

Loc Qty

Loc Code

FP

1

110847

1

ST346

31

114442

6

115188

25

X1

D3488-041

Manufactured

No

230

Each

6.0000

1

1



Blade Fitting Assembly, LH



HL 10/01/05 PTO =>

Location

Loc Qty

Loc Code

FP

3

53915

3

FP007

3

56052

3

V1

Friday, October 01, 2010 10:26:35 AM

Shop Packet Print

Page 6

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/01/05	230	Assemble with D2594-3 / M61762 "O" Rings	JL	10/01/05	47		8 11/01/07

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 7

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

AN6C44A Purchased No 230 Each 93.0000 4 4  
BOLT  
10/01/05

Location	Loc Qty	Loc Code
FG	2	
103964	2	
ST344	91	
111649	2	
114653	1	
114941	75	
115030	13	

MS21083C8 Purchased No 230 Each 55.0000 1 1  
NUT  
10/01/05

Location	Loc Qty	Loc Code
ST303	55	M116289
113845	5	
114934	4	
115594	46	

D3631-1 Manufactured No 230 Each 403.0000 8 8  
Washer  
10/01/05

Location	Loc Qty	Loc Code
ST072	129	
60755	129	
ST076	274	
52693	206	
54388	68	

Friday, October 01, 2010 10:26:35 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 8

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C10L NAS1149C0332 Purchased No

230 Each 29.0000 4 4



washer

M115832



x4 M 11/01/05

Location

Loc Qty

Loc Code

ST245

29

107534

29

D2745 Manufactured No

230 Each 205.0000 8 8



Bushing



M 11/01/05

Location

Loc Qty

Loc Code

ST023

205

52311

5

59112

4

61203

92

61988

104

x8

AN960C816L ~~NAS1149C08332R~~ Purchased No

230 Each 0.0000 1 1



WASHER

M114915



x1 M 11/01/05

D3492-043 Manufactured No

230 Each 11.0000 8 8



Plug Assembly



M 11/01/05 PTO=)

Location

Loc Qty

Loc Code

FP

2

54682

2

FP013

9

59117

1

59190

4

61503

4

B63996

x8

Friday, October 01, 2010 10:26:35 AM

Shop Packet Print

Page 8

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/01/05	230	Assemble with NAS 1611-013 "O" Rings M115812	JH	11/01/05	1		8 11/01/07

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 9

Work Order ID: 62437

Parent Item: D350-636-015

Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C6A Purchased No 230 Each 269.0000 4 4  
BOLT



11/10/05

Location Loc Qty Loc Code

ST351 269

111982 269

MS21043-6 Purchased No 230 Each 642.0000 4 4  
NUT



11/10/05

Location Loc Qty Loc Code

ST301 642

112314 642

D3493-1 Manufactured No 250 Each 48.0000 2 2  
Washer



11/11/05

Location Loc Qty Loc Code

ST062 40

61672 40

ST065 8

60873 8

MS21083C8 Purchased No 250 Each 55.0000 1 2  
NUT



11/10/06

Location Loc Qty Loc Code

ST303 55

113845 5

114934 4

115594 46

1115881

12

Friday, October 01, 2010 10:26:35 AM

Shop Packet Print

Page 9

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Friday, October 01, 2010 10:26:35 AM

Page 10

Work Order ID: 62437



Parent Item: D350-636-015



Parent Item Name: Skidtube STD w/ Training Wearplates, LH

Start Date: 9/30/2010

Required Date: 10/11/2010

Start Qty: 1.00

Required Qty: 1.00

AN8C21A

Purchased No

250 Each

57.0000

2

2



BOLT



11/01/08

Location

Loc Qty

Loc Code

ST345

57

113558

1

114653

16

115723

40

y 2

D2741

Manufactured No

250 Each

37.0000

1

1



Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST466

37

60210

37

11/01/06

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

# GENERAL NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:  
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER.
- 11) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SERIALIZED  
 RE-UTL  
 ENGINEERED  
 UNCONTROLLED COPY  
 SUBJECT TO RECALL  
 WITHIN 1 YEAR  
 W. H. H. H. H.  
 NO. 62437  
 10-10-09

**RELEASED**  
 2010-09-15

A NEW ISSUE		SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 1 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

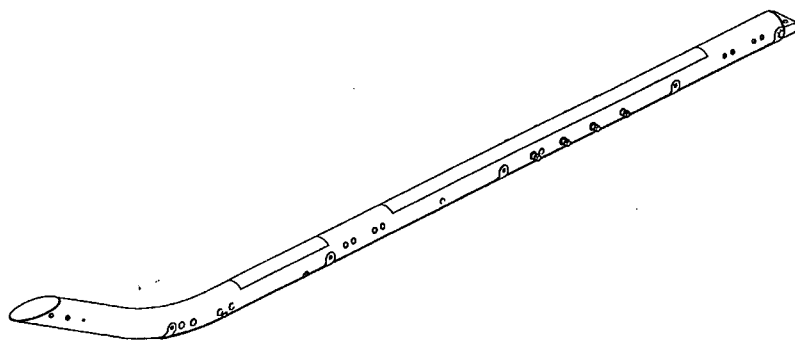
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

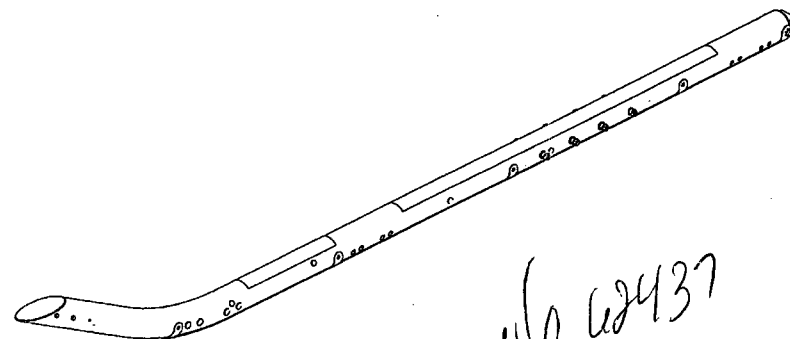
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4168-041 350 SKIDTUBE ASSEMBLY, LH**



**D4168-042 350 SKIDTUBE ASSEMBLY, RH**

*WLO 62437*

**RELEASED**  
2010-09-15  
JW

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	<b>D4168</b>	SHEET 2 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>350 SKIDTUBE ASSEMBLY</b>	NTS
DATE	<b>10.08.09</b>	<small>           COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.            THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS            NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT            WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.         </small>	

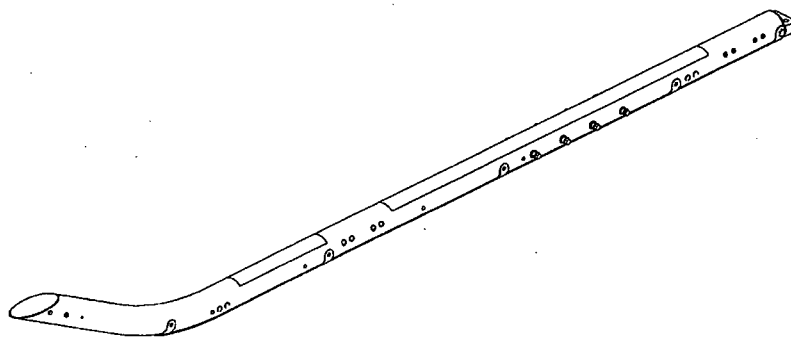
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

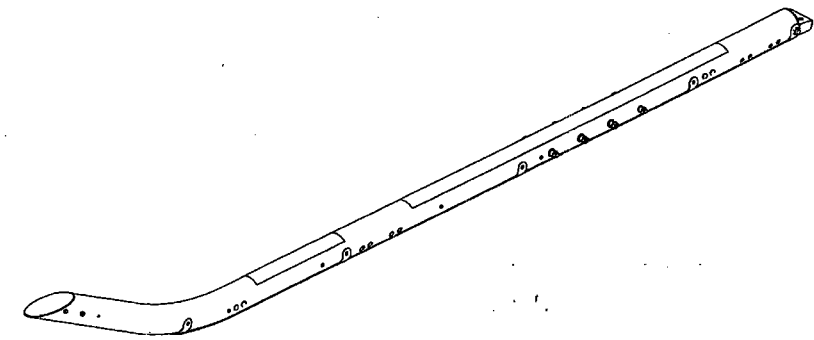
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4168-043 350 SKIDTUBE ASSEMBLY, LH**



**D4168-044 350 SKIDTUBE ASSEMBLY, RH**

*w/062437*

**RELEASED**  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO. <b>D4168</b>	REV. A
MFG. APPR.	<i>[Signature]</i>	SHEET 3 OF 11	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>350 SKIDTUBE ASSEMBLY</b>	NTS
DATE	<b>10.08.09</b>	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

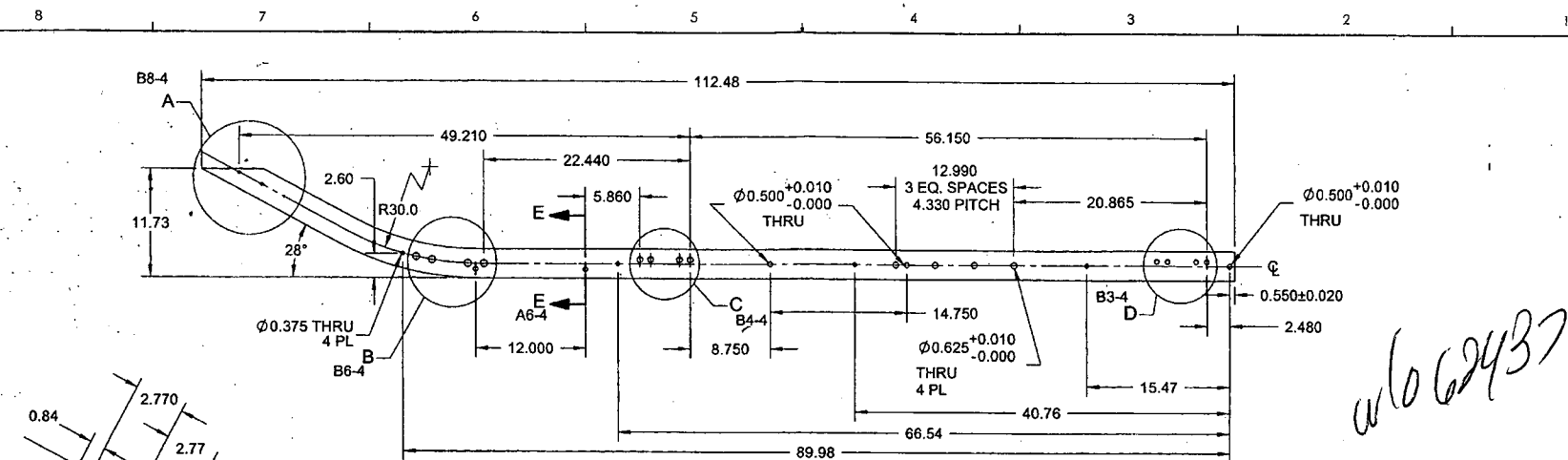
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

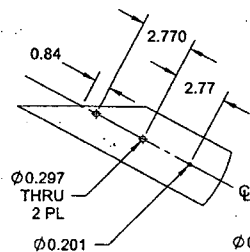
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

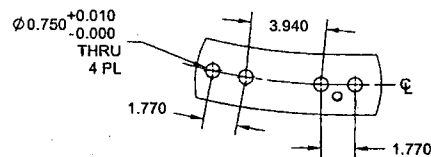




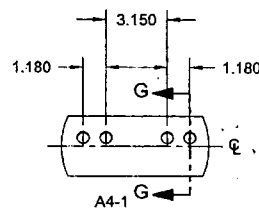
# **D4168-1 LH SKIDTUBE**



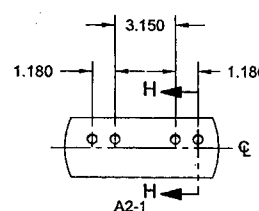
**DETAIL A**  
SCALE 2X



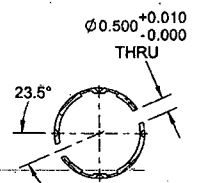
**DETAIL B**  
SCALE 2X



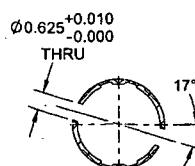
**DETAIL C**  
SCALE 2X



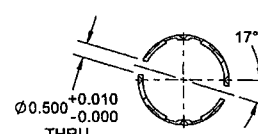
**DETAIL D**  
SCALE 2X



**SECTION E-E**  
SCALE 3X, 2 PL



**SECTION G-G**  
SCALE 3X, 4 PL



**SECTION H-H**  
SCALE 3X, 4 PL

**RELEASED**  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	JP	DRAWING NO. <b>D4168</b>	REV. A
MFG. APPR.		TITLE	SHEET 4 OF 11
APPROVED	AW	<b>350 SKIDTUBE ASSEMBLY</b>	SCALE
DE APPR.			NTS
DATE	10.08.09	<small>           COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.            THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE CONDITION THAT IT IS NOT TO BE USED IN ANY MANNER OR FOR ANY PURPOSES WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.         </small>	

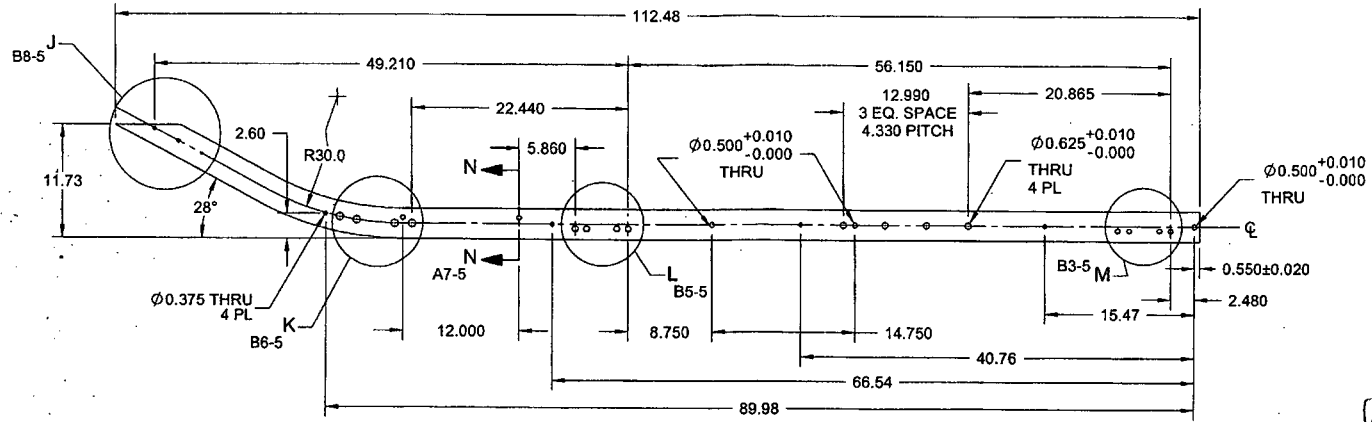
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

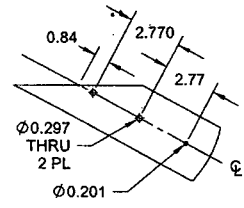
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

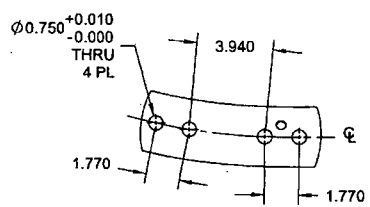


*aloc 2437*

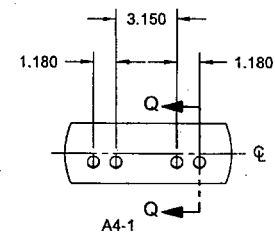
**D4168-2 RH SKIDTUBE**



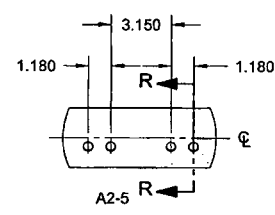
**DETAIL J**  
SCALE 2X



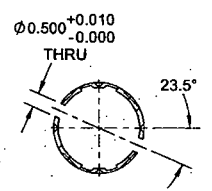
**DETAIL K**  
SCALE 2X



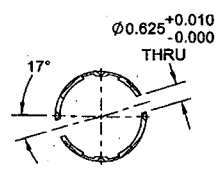
**DETAIL L**  
SCALE 2X



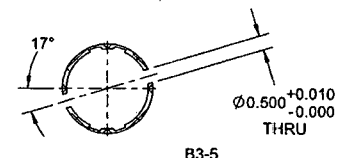
**DETAIL M**  
SCALE 2X



**SECTION N-N**  
SCALE 3X, 2 PL



**SECTION Q-Q**  
SCALE 3X, 4 PL



**SECTION R-R**  
SCALE 3X, 4 PL

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	SC	DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 5 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS.
DATE	10.08.09	<small>           COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.            THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS            NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT            WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.         </small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

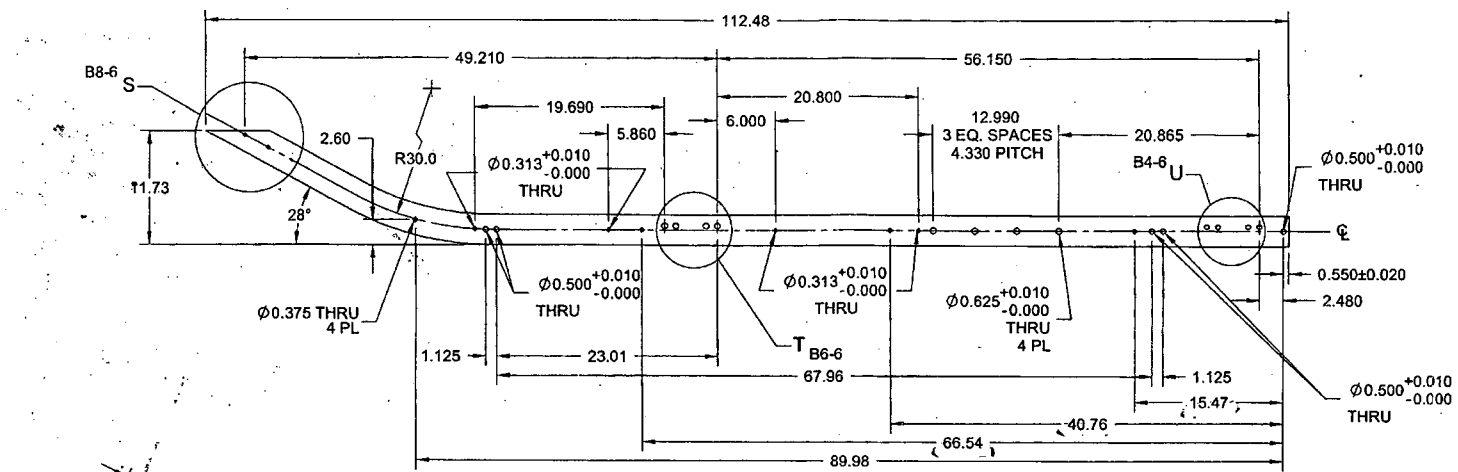
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

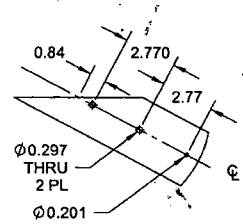
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

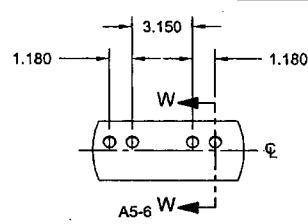
8 7 6 5 4 3 2 1



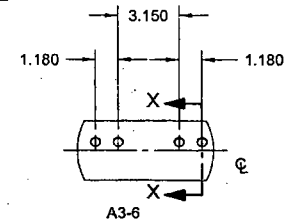
**D4168-3 LH SKIDTUBE**



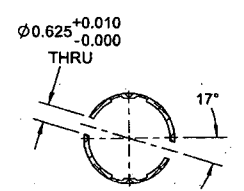
**DETAIL S**  
SCALE 2X



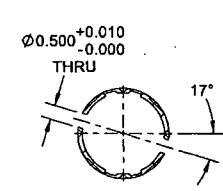
**DETAIL T**  
SCALE 2X



**DETAIL U**  
SCALE 2X



**SECTION W-W**  
SCALE 3X, 4 PL



**SECTION X-X**  
SCALE 3X, 4 PL

**RELEASED**  
2010-09-16

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 6 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE LOANED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

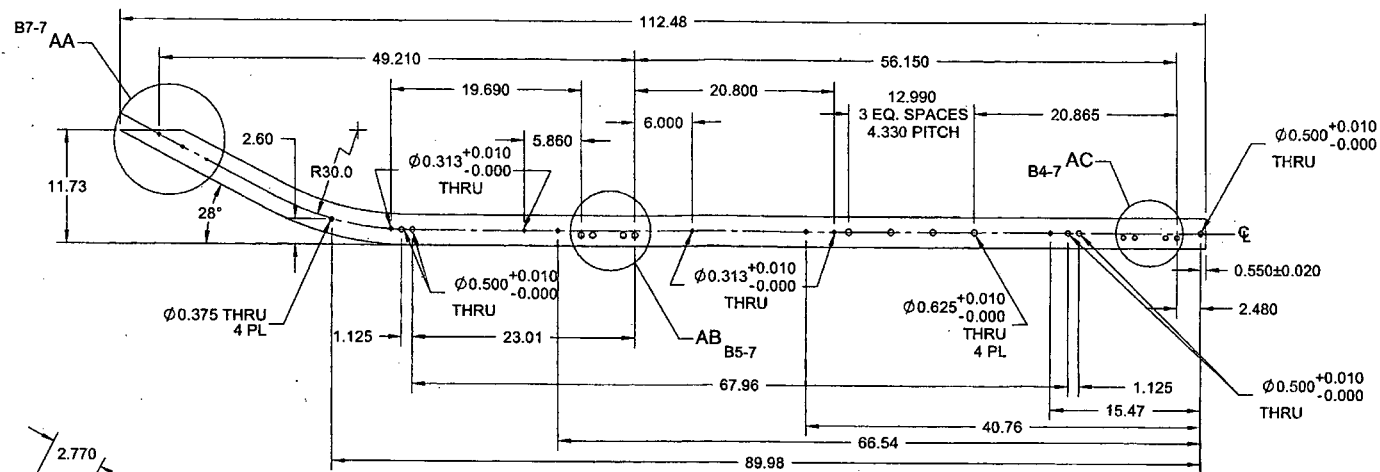
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

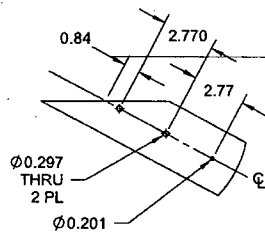
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

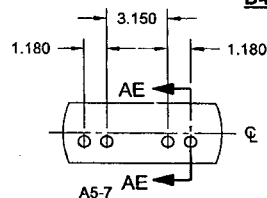
8 7 6 5 4 3 2 1



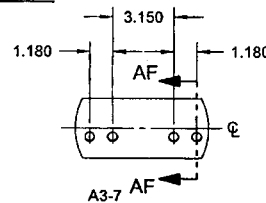
**D4168-4 RH SKIDTUBE**



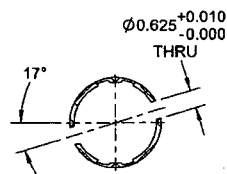
**DETAIL AA**  
SCALE 2X



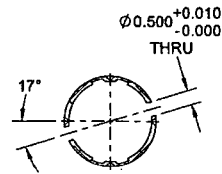
**DETAIL AB**  
SCALE 2X



**DETAIL AC**  
SCALE 2X



**SECTION AE-AE**  
SCALE 3X, 4 PL



**SECTION AF-AF**  
SCALE 3X, 4 PL

*w/062437*

**RELEASED**  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4163	SHEET 7 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

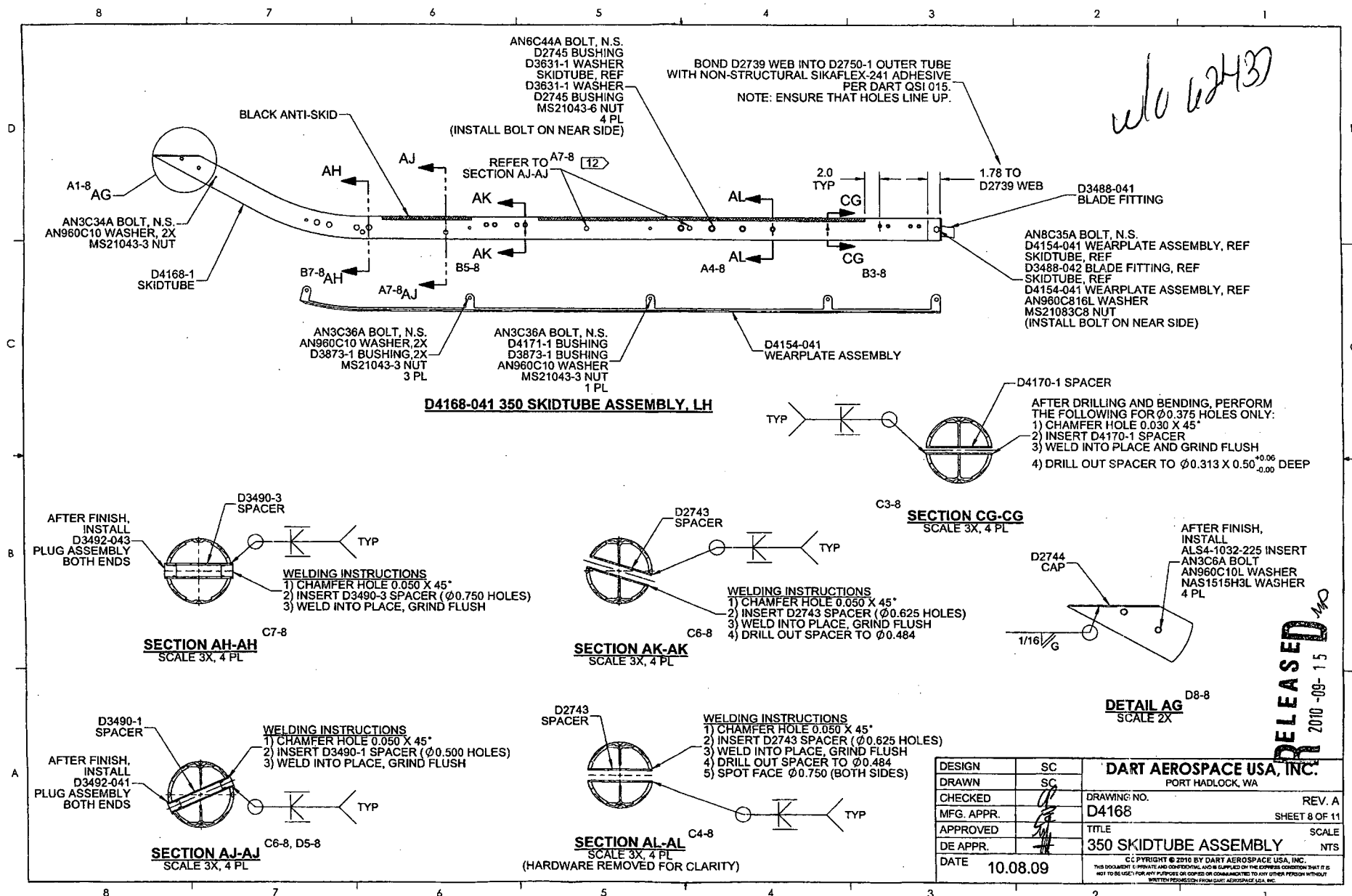
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





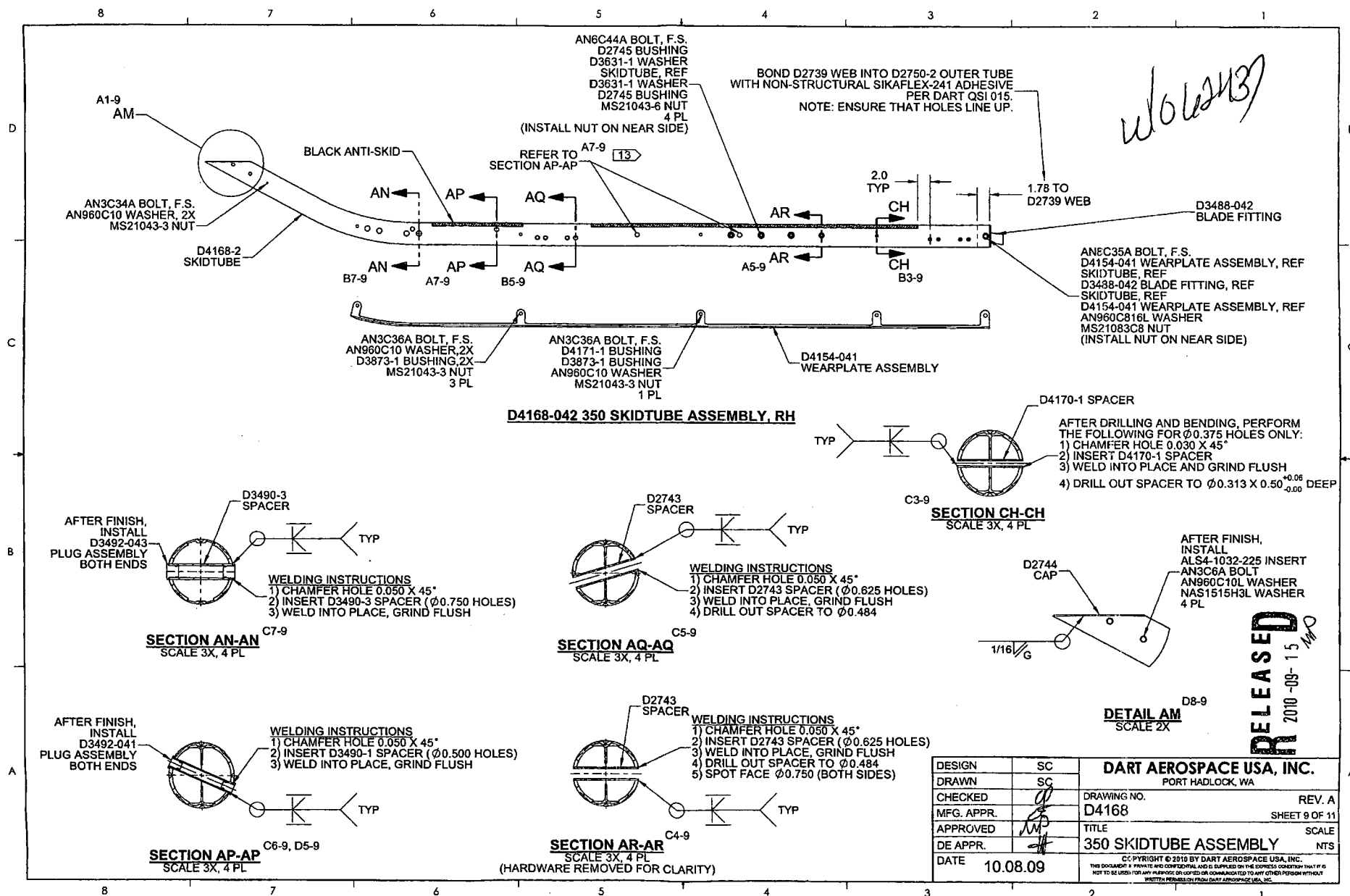
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

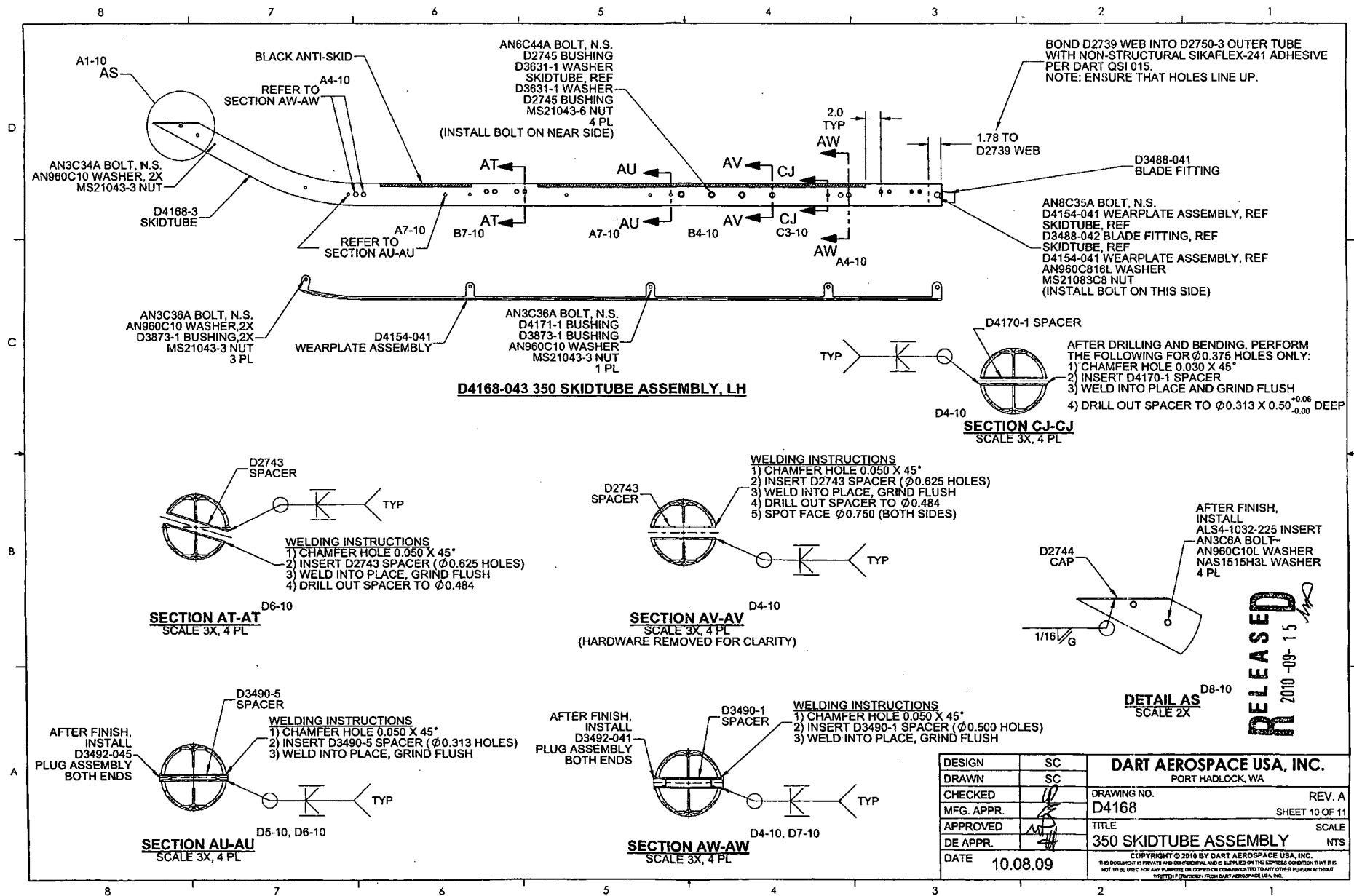
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

W/O 62437



RELEASED  
2010-09-15

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 10 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PROPRIETARY AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR ON ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**D4168-044 350 SKIDTUBE ASSEMBLY, RH**

**SECTION BB-BB**  
SCALE 3X, 4 PL

**SECTION BC-BC**  
SCALE 3X, 4 PL

**SECTION BE-BE**  
SCALE 3X, 4 PL

**SECTION CK-CK**  
SCALE 3X, 4 PL

**DETAIL BA**  
SCALE 2X

**WELDING INSTRUCTIONS**

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D2743 SPACER (Ø0.625 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH
- 4) DRILL OUT SPACER TO Ø0.484

**WELDING INSTRUCTIONS**

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D3490-1 SPACER (Ø0.500 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH

**DESIGN DATA**

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	SC	DRAWING NO.	REV. A
MFG. APPR.	SC	D4168	SHEET 11 OF 11
APPROVED	SC	TITLE	SCALE
DE APPR.	SC	350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
112.48	+/- 0.030	112.46				
49.210	+/- 0.010	49.210				
56.150	+/- 0.010	56.15				
2.60	+/- 0.030	2.45				
22.440	+/- 0.010	22.440				
R30.0	+/- 1.00	R30.0				
5.860	+/- 0.010	5.860				
12.990	+/- 0.010	12.990				
4.330	+/- 0.010	4.330				
20.865	+/- 0.010	20.865				
11.73	+/- 0.030	11.75				
28°	+/- 1/2°	28.8°				
12.000	+/- 0.010	12.000				
8.750	+/- 0.010	8.750				
14.750	+/- 0.010	14.750				
0.550	+/- 0.020	0.530				
2.480	+/- 0.010	2.480				
15.47	+/- 0.030	15.47				
40.76	+/- 0.030	40.76				
66.54	+/- 0.030	66.54				
89.98	+/- 0.030	89.98				

Eric,  
Please  
Audit &  
verify.

Thanks  
JASA  
10/10/12.

Eric

Please  
Audit &  
verify.

Thanks  
JASA  
10/10/12

Measured by:	<i>NP</i>	Audited by:	<i>S</i>	Prototype Approval:	N/A
Date:	<i>10-10-12</i>	Date:	<i>10/11/09</i>	Date:	N/A



Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

DART AEROSPACE LTD		Work Order: 62437
Description: 350 Skid Training Weapoles		Part Number: D350-636-015
Inspection Dwg: D4168 Rev: A		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<u>Detail A</u>						
0.84	+/- 0.030	0.84				
2.770	+/- 0.010	2.770				
2.77	+/- 0.030	2.77				
<u>Detail B</u>						
1.770	+/- 0.010	1.770				
3.940	+/- 0.010	3.940				
1.770	+/- 0.010	1.770				
<u>Detail C</u>						
1.180	+/- 0.010	1.180				
3.150	+/- 0.010	3.150				
1.180	+/- 0.010	1.180				
<u>Detail D</u>						
1.180	+/- 0.010	1.180				
3.150	+/- 0.010	3.150				
1.180	+/- 0.010	1.180				

Measured by: 	Audited by: 	Prototype Approval:	N/A
Date: 10-10-12	Date: 10/11/12	Date:	N/A



Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

DART AEROSPACE LTD		Work Order: 62437
Description: 350 Shid w/ Training Nozzle		Part Number: D350-636-015
Inspection Dwg: D4168	Rev: A	Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
<u>Section E-E</u>						
23.5°	+/- 1/2°	23.3				
23.5°	+/- 1/2°	24				
<u>Section 6-6</u>						
17°	+/- 1/2°	16.4°				
17°	"	16.4°				
17°	"	16.4°				
17°	"	16.4°				
<u>Section H-H</u>						
17°	+/- 1/2°	16.3°				
17°	"	16.3°				
17°	"	16.3°				
17°	"	16.3°				

Measured by: 	Audited by: 	Prototype Approval:	N/A
Date: 10-10-12	Date: 10/11/14	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	KJ/JLM	

Δ350-636-015/016/017/018

☒ First Article    ☐ Prototype

\* →

DP

NO. 239

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barday Elliott  
Job number: 6194 61914  
Part number: D350 636 012  
Description: 350 skid  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminum  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier P. J. D. Date of Test Coupon 10.09.30  
Welder Barday Elliott Date of Test Coupon 10.09.30

The above named individual is qualified in accordance with AWS D17.1.2001 to weld